

Exemption No. 6463

**UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

Instone Air Services

for exemption from §§ 25.857(e) and
25.1447(c)(1) of the Federal Aviation Regulations

Regulatory Docket No. 28474

PARTIAL GRANT OF EXEMPTION

By letters dated February 13 and March 29, 1996, Mr. Jim Everitt, J2 Technologies, 7382 N. Paseo Ronceval, Tucson, AZ 85704, petitioned on behalf of Instone Air Services for certain exemptions intended to allow the carriage of up to sixteen supernumerary occupants (i.e., animal handlers, or grooms) on the main deck of Boeing Model 747-100/-200 cargo aircraft, to attend to live animal cargo.

Affected Sections of the FAR:

Section 25.857(e) defines the attributes of a Class E cargo compartment, and requires that a Class E cargo compartment may not be on any aircraft other than one utilized exclusively for the carriage of cargo.

Section 25.1447(c)(1) requires, in pertinent part, that oxygen masks must be immediately available to each seated occupant, be automatically deployed with manual backup, and must exceed in number the quantity of seats by ten percent, with the extra units distributed evenly throughout the cabin.

ANM-96-014-E

Related Sections of the FAR:

Section 25.855(a) requires that cargo compartments must meet one of the class requirements of § 25.857.

Section 121.583 provides, in pertinent part, that when authorized, certain persons other than passengers may be carried aboard an airplane not in compliance with certain passenger-carrying requirements including those described in §§ 121.310 and 121.317.

The petitioner's supportive information is as follows:

“Instone Air Services is a company specializing in providing worldwide service in the transportation of bloodstock - race horses, show horses, etc. The company utilizes aircraft ranging in size from short-haul European freighters to the 727, 707, DC-8, DC-10, and 747.

“The 747-100/-200 freighters presently provide for supernumerary seating on the upper deck that will accommodate three, and in some cases, provisions for five grooms/livestock handlers. For long duration flights, the supernumerary seating is utilized for additional flight crew in compliance with the flight time limitations of subparts P, Q, R, and S of part 121.

“The petition is for an exemption from §§ 25.857(e) and 25.1447(c)(1). The exemption from § 25.857(e) will allow for the accommodation of sixteen livestock attendants or grooms on the main deck of a 747-100/-200 freighter on a specially designed attendants' pallet in pallet position #29. The exemption from § 25.1447(c)(1) will mandate an equivalent level of safety for attendants leaving the vicinity of the attendants' pallet by requiring them to wear portable oxygen units. The sixteen pallet-installed oxygen units and the sixteen portable units meet the requirements of § 25.1447(c)(1), which requires the number of oxygen masks to exceed the number of seats by ten percent. All features of the Class E cargo compartment required under §§ 25.855 and 25.857 will be retained, and all safety requirements of part 25 as defined by the certification basis of the airplane in Type Certificate Data Sheet (TCDS) A20WE will be complied with.

“The FAA-approved Airplane Flight Manual (AFM) will contain an operating limitation restricting the carriage of occupants accommodated by this pallet to animal handlers who have been designated by the operator as necessary for the safe carriage of live animal cargo. This pallet may be similarly occupied during operations in which no cargo at all is transported, but shall not be occupied during operations in which any cargo whatsoever other than live animals is being transported.

“In addition, an FAA-approved training plan will be initiated to instruct the animal handlers in the prohibition against smoking and procedures in equipment use relating to ditching and emergency evacuation.”

“1.0 INTRODUCTION

“Two exemptions from the Federal Aviation Regulations (FAR) are being requested - an exemption from § 25.857(e) to allow for attendants to be accommodated on the main deck of the 747-100/-200 freighter, and an exemption from § 25.1447(c)(1) to provide for an equivalent level of safety in the dispensing of oxygen in emergency situations. All safety features of part 25 as defined by the certification basis of the airplane in TCDS A20WE will be complied with.”

“2.0 EXEMPTION BEING PETITIONED

“Instone Air Services is requesting an exemption from § 25.857(e) to allow the carriage of up to sixteen livestock handlers on the main deck of a 747-100/-200 freighter, and an exemption from § 25.1447(c)(1) to allow portable oxygen units to be worn by the livestock attendants when they are away from the pallet. Furthermore, it is requested that an exemption from § 25.1447(c)(1) be allowed for an equivalent level of safety that would consider sixteen portable oxygen units and sixteen pallet-installed units as meeting the requirement that the number of oxygen masks exceed the number of seats by ten percent.

“3.0 PETITIONER INTEREST

“Instone Air Services is a company specializing in providing a worldwide service for the transport of live animals, and particularly, the transport of bloodstock - race horses, show horses. etc.

“These animals are very valuable and many are worth over one million dollars. The animals cannot be insured for air transport unless there is a sufficient number of qualified handlers on board.

“The interest of the petitioner is in providing a level of safety for the animals and the aircraft that will allow an expansion of his service to include international events such as the Olympics and other world events which involve large numbers of race horses and show horses.

“4.0 JUSTIFICATION OF REQUEST

“4.1 Rationale

“Horses are usually transported in specially constructed horse shipping containers which each can contain as many as three horses. The containers are designed to fit into the existing pallet positions of a 747-100/-200 freighter and, depending on the configuration of the particular 747, there could be as many as twenty-eight or twenty-nine pallet positions available. Eighty-four to eighty-seven horses per flight would be a typical horse charter, and the number of qualified grooms required is commensurate with the value and safety of the horses and the aircraft.

“For safety reasons, the International Animal Transport Association (IATA) recommends that for up to four pallets, one experienced groom be provided for each pallet of horses being shipped. For more than four pallets of horses, it is at the discretion of the carrier and the shipper to determine the optimum requirement.

“A 747-100/-200 freighter has accommodations for one to three, and sometimes five, grooms on the upper deck. For long duration flights, however, this seating is utilized for additional flight crew in compliance with the flight time limitations of subparts P, Q, R, and S of part 121.

“The safe transport of large numbers of horses by air therefore requires the carriage of a commensurate number of qualified handlers on the main deck

“4.2 Public Interest

“The carriage of an appropriate number of animal handlers aboard aircraft to monitor and to attend to the special requirements of live animal cargo, especially race horses and show horses, serves the public interest in raising the level of safety of the livestock, the airplane, the flight crew, and consequently, the general public.

“Designing the animal handlers' station to meet the certification basis requirements of part 25 included by reference in TCDS A20WE for Model 747-100/-200 airplanes raises the safety level of the animal handlers to that intended for passengers.

“This exemption, therefore, is in the public interest for safety reasons and also for increased air freight deliveries of these animals internationally.

“4.3 Safety

“Safety is the primary concern of the modification. As stated earlier, all safety requirements of part 25 as defined by the certification basis of the airplane in TCDS A20WE for the 747-100/-

200 will be complied with. Any adverse effects of the exemption and the equivalent level of safety the modification will provide are discussed below.

“4.3.1 Adverse Effects

“The exemption is to allow for the carriage of livestock attendants on the main deck of a 747-100/-200 freighter. Because of the level of safety provided by part 25 and the restrictions placed on the carriage of attendants as specified in the FAA-approved AFM, there are no apparent adverse effects.

“4.3.2 Equivalent Level of Safety

“The modification will be designed to incorporate certain features that will ensure the animal attendants enjoy a level of safety equivalent to that enjoyed by passengers, as provided by the original certification basis of the aircraft. These features are listed below.

“A. Animal Attendants' Seats

“The animal attendants' seats will be chosen for their certified ability to support the weight of the attendants and any equipment installed on the seats at the maximum load factors of the airplane at the F.S. position of the pallet and for the emergency landing conditions.

“B. Pallet Design

“The pallet and pallet restraint system will be designed and substantiated to the emergency landing conditions of § 25.561 and the aircraft load factors at the fuselage station c.g. position of the pallet.

“C. Emergency Egress - § 25.810

“(1) Doors 5L and 5R will be reactivated to serve as emergency exits.

“(2) Approved and certified slides will be installed at doors 5L and 5R to provide emergency egress assist means from the aircraft.

“(3) Flotation for the occupants will be provided by the slides or by rafts.

“D. Supplemental Oxygen - § 25.1447.

“Section 25.1447(c)(1) states that oxygen must be automatically presented and immediately available to seated occupants. The quantity of masks must exceed the number of seats by ten percent.

“(1) Seated Occupants

“It is the plan of the Supplemental Type Certificate (STC) to provide the seated occupants with DC-10 style seats that have automatically presented oxygen supply devices installed in the seat backs. The four grooms seated in the first row will have these same devices installed in front of them or will have pallet-installed bottles readily available.

“(2) Working Grooms

“Each groom will be provided with a portable oxygen bottle that he will be required to wear when leaving the vicinity of the pallet.

“NOTE: It is considered that the sixteen portable oxygen units provide an equivalent level of safety to the pallet-installed units, and that these units, along with the sixteen pallet-installed units, meet the requirement of § 25.1447(c)(1) that the quantity of masks exceed the number of seats by ten percent.

“(3) Decompression Signal

“An automatically activated decompression signal immediately recognizable throughout the cabin area will be provided.

“E. Emergency Lighting System - § 25.812

“A palletized emergency lighting system will be provided for the following items:

“(1) Emergency lighting illumination of the pallet, passageways, door signs, Instructions, etc., will be provided.

“(2) Ground illumination at the point an evacuee would first make contact with the ground.

“(3) Exit Identifier signs.

“(4) Floor proximity lighting.

“F. Lighted Fasten Seat Belt signs - § 25.791.

“Switchable lighted "Fasten Seat Belt" signs will be provided.

“G. Flight Deck Communications - § 25.1423

“An aircraft-standard intercom/Public Address (PA) system will be installed.

“H. Placards

“The following placards will be provided:

“(1) No Smoking Signs

“(2) Door Operating Instructions

“(3) Slide Operating Instructions

“(4) Raft Operating Instructions

“(5) External Door Exit Markings

“I. AFM Supplement

“(1) The FAA-approved AFM will be supplemented to contain an operating limitation restricting the carriage of occupants accommodated by this pallet to animal handlers designated by the operator as necessary for the safe carriage of live animals. The pallet may be similarly occupied during operations in which no cargo is carried, but not occupied during operations in which any cargo other than live animals is being transported.

“(2) Instructions by operator in accordance with FAA-approved procedures as described by item # 10 [sic].

“J. FAA-Approved Training Plan

“An FAA-approved training plan to instruct the animal handlers in the prohibition against smoking, procedures and equipment use relating to ditching and emergency evacuation.”

A summary of the Instone Air Service petition was published in the Federal Register on March 7, 1996 (61 FR 9220). No comments were received.

The FAA's analysis/summary is as follows:

Part 121, e.g., § 121.583, recognizes a "person" category of occupant, as distinct from only "passenger" or "crew" occupants addressed by part 25, and allows non-compliance, for operational purposes, with certain part 121 requirements normally pertinent to passenger-carrying airplanes, passenger-carrying operations, and passenger requirements. (These "persons" are commonly referred to as supernumeraries.) Part 25, however, contains no similar provision. Therefore, regardless of any part 121 provisions, in order to modify part 25 transport category aircraft by installing supernumerary accommodations that do not comply with part 25 certification requirements, it is first necessary to petition for and obtain exemption, as may be warranted, from affected part 25 requirements.

In considering Instone's petition in this regard, to provide for the accommodation of up to sixteen supernumeraries on the 747 main deck, which was hitherto a Class E compartment (as defined in §§ 25.855 and 25.857), the primary concern is in addressing any potentially adverse impact of including these occupants within what is intended by the FAR to be an all-cargo compartment.

Instone's petition is considered with reference to the passenger safety criteria of part 25, but with due consideration traditionally given to the special status of "persons," beyond that of passengers, by virtue of certain knowledge and abilities attributed to them through certain training and the imposition of special equipment requirements. The petitioner's request is noted to allow remotely located groom seating at the aft portion of the main cabin, without benefit of immediately available flightcrew or flight attendants, and irrespective of existing noted exemptions which allow other supernumerary seating immediately behind the cockpit on the upper deck. The petition is also understood to address only the intended operations described, i.e., the carriage of supernumeraries to attend to live animals. Any contemplated operations that include the carriage of any non-live-animal cargo, either exclusively or in combination with live animals, is beyond the scope of this evaluation, and must be considered separately.

In order to maintain the intended safety benefit to the airplane of Class "E" compartments, and the safety of supernumerary occupants, the following requirements in addition to those proposed are considered appropriate:

1. A PA message to the main deck from the flight deck shall be audible throughout the main deck area during all anticipated flight operations and conditions associated with the carriage of live animals.

2. Considering that grooms may be engaged in their duties away from the seat pallet, the flightcrew switchable, lighted passenger information "Fasten Seat Belts" signs required by § 25.791 should be visible throughout the main deck and not just from seated locations.

3. In noting obvious differences between cabin configurations envisioned by part 25 and that proposed by the petitioner, as well as between the normal activities associated with passengers as compared with grooms, the FAA is concerned with assuring that the grooms would be as safely provided with supplemental oxygen as would be passengers. To that end, comparison is made of the likely response of normally seated passengers observing the automatic presentation of masks throughout the cabin, with that of possibly working grooms who may or may not even notice a "decompression signal." However, requiring grooms who leave the vicinity of the pallet-installed seats to wear portable oxygen generator devices is considered to provide an acceptable equivalency to the readily available, automatically presented, and uniformly distributed requirement of § 25.1447(c)(1), presuming the decompression signal is shown to be acceptable, as discussed below, and these portable oxygen devices are shown to be equivalent to those normally installed and approved in passenger service units (PSU).

4. Grooms must be able to quickly access oxygen from either their portable units when away from their seats, or from automatically presented oxygen mask units installed at their seats. It is noted that the petitioner is unclear as to the intended method of providing oxygen to front-row seated grooms. Automatically presented DC-10 type, seatback oxygen units, as are intended for the other seat locations require no exemption. Other means not complying with part 25 requirements require an exemption.

5. The audible decompression "signal" must be a dedicated one immediately recognizable (by prior training) to all grooms simultaneously, wherever they may be located throughout the cabin, as a signal to don oxygen masks, and must be initiated without flightcrew action by an automatically actuated system equivalent to that required for passengers.

6. Instone has provided with its petition industry guidelines, from the International Animal Transport Association (IATA), which would appear to substantiate the general appropriateness of requiring the requested sixteen grooms for the typically anticipated animal cargo load of eighty-four to eighty-seven horses (or equivalent animal). While the FAA accepts this information, it is noted that the petitioner has not proposed pro-rating the number of grooms onboard to the actual number of animals being carried on any given flight. The FAA considers this as an oversight that should be addressed, in order to reduce any possible safety exposure to unnecessary grooms. Accordingly, it shall be a condition of this exemption that the number of grooms carried onboard shall be commensurate for the actual number of animals being carried, but in no case more than sixteen.

7. As a part of assuring a compensating level of safety for the main deck occupants, nominal fire extinguisher and protective breathing equipment should be provided in accordance with the intent of §§ 25.851(3) & (4) and 25.1439, respectively. In this particular regard, the main deck cargo compartment shall be considered a Class E cargo compartment, a lower-lobe galley, or an isolated compartment, whichever requires the most conservative quantity and location of this equipment.

8. The petitioner has indicated the intention to retain all required attributes of a Class E cargo compartment, as addressed in §§ 25.855 and 25.857(e), with the single exception of allowing occupants to be accommodated in this cargo compartment. Given that the petitioner did not propose the inclusion of any additional equipment associated with fire fighting (i.e., fire extinguishers and protective breathing equipment (PBE)), or address this subject in any manner, the FAA interprets this omission as the intent on the part of the operator to retain the means required by § 25.857(e)(3) to control a Class E cargo compartment fire, i.e., decompression of the airplane. Accordingly, this grant is conditioned on the retention of these procedures, and on the installation of required occupant supplemental oxygen equipment that is sized adequately for continuous and uninterrupted use, in accordance with § 25.1441, during worst-case flight durations under these conditions.

Finally, accommodating any occupants in what would otherwise be a Class E cargo compartment means that this cargo compartment no longer complies with any FAR cargo compartment designation. Technically, this would be a violation of § 25.855(a) which requires that all cargo compartments comply with one of the designated classifications. Accordingly, although exemption from this requirement was not sought, exemption from this requirement of § 25.855(a) is necessarily granted.

In consideration of the foregoing, I find that a partial grant of exemption is in the public interest, and is determined to have no more than a negligible effect, if any, on the level of safety provided by the regulations. Therefore, pursuant to the authority contained in §§ 313(a) and 601(c) of the Federal Aviation Act of 1958, delegated to me by the Administrator (14 CFR 11.53), the petition of Instone Air Services for an exemption from the requirements of §§ 25.855(a), 25.857(e), and 25.1447(c)(1) to allow the carriage of up to sixteen grooms on the main deck of 747-100-200 cargo aircraft, to attend to live-animal cargo, is granted under the following conditions:

A. Instone's intended pallet and other associated installations and procedures must be configured and established as petitioned, or as may have been modified or expanded upon in the FAA's items one through eight in the analysis/summary section above.

B. The FAA-approved Airplane Flight Manual (AFM) must contain an operating limitation restricting the carriage of occupants accommodated by this seat pallet to animal handlers (grooms) only, who have been:

1. Designated by the operator as necessary for the safe carriage of live-animal cargo. This seat pallet may be similarly occupied during operations in which no cargo at all is transported provided that this transport is for the purpose of reaching or returning from a destination where live-animal cargo is delivered, but shall not be so occupied during operations in which any cargo whatsoever other than live animals is being transported, and;
2. Instructed by the operator, in accordance with an FAA-approved training plan, in the placarded prohibition against smoking, in procedures and equipment use relating to ditching and emergency evacuation, in decompression recognition and procedures, in fire extinguisher and PBE locations and procedures for fire fighting, in seat belt use, in PA/intercom communications with the cockpit, and appropriately briefed by a flight crewmember prior to each flight.

Issued in Renton, Washington, on June 19, 1996

/s/

Darrell M. Pederson
Acting Manager
Transport Airplane Directorate,
Aircraft Certification Service